AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application.

Listing of Claims:

1. **(Currently Amended)** A method for treating an implant surface intended for implantation into bone tissue, said method comprising:

providing a microroughness onto said implant surface by treating the metallic implant surface with an aqueous solution of hydrofluoric acid, wherein the concentration of the hydrofluoric acid is less than 0.5 M;

wherein said microroughness comprises pores and peaks having a pore diameter of ≤ 1 μm, a pore depth of ≤ 500 nm, and a peak width, at half the pore depth, of from 15 to 150% of the pore diameter, and

the implant surface is a metallic implant surface.

2. **(Previously Presented)** The method according to claim 1, wherein the pore diameter is within the range of 50 nm to 1 μm and the pore depth is within the range of 50 to 500 nm.

3. **(Previously Presented)** The method according to claim 1 or 2, wherein a root-mean-square roughness (R_q and/or S_q) of ≤ 250 nm is provided.

4-6. **(Cancelled)**

7. **(Previously Presented)** The method according to claim 1 or 2, wherein the metallic implant surface is treated for an etching period of up to 180 sec at room temperature.

8. **(Previously Presented)** The method according to claim 7, wherein the concentration of the hydrofluoric acid is 0.1 M and the etching period is up to 60 sec at room temperature.

9. **(Previously Presented)** The method according to claim 1 or 2, further comprising providing a macroroughness on the implant surface prior to providing the microroughness.

10. **(Previously Presented)** The method according to claim 9, wherein the macroroughness is provided by blasting the implant surface.

11. **(Previously Presented)** The method according to claim 1 or 2, wherein said metallic implant surface is made of commercially pure titanium or an alloy of titanium.

12. **(Cancelled)**

13. **(Currently Amended)** An implant for implantation into bone tissue having an implant surface characterized in that at least a part of the implant surface comprises a

microroughness which comprise pores and peaks having a pore diameter of ≤ 1 μm, a pore depth of ≤ 500 nm, and a peak width, at half the pore depth, of from 15 to 150% of the pore diameter,

wherein the microroughness has a root-mean-square roughness (R_q and/or S_q) of ≤ 250 nm.

14. **(Previously Presented)** The implant according to claim 13, wherein the pore diameter is within the range of 50 nm to 1 μm and the pore depth is within the range of 50 to 500 nm.

15. **(Cancelled)**

16. **(Previously Presented)** The implant according to claim 13 or 14, wherein the implant surface further comprises a macro-roughness.

17. **(Previously Presented)** The implant according to claim 13 or 14, wherein said implant is a metallic implant.

18. **(Previously Presented)** The implant according to claim 17, wherein said metallic implant is made of commercially pure titanium or an alloy of titanium.

19. **(Previously Presented)** The implant according to claim 13 or 14, wherein the implant is a dental implant.

20. **(Previously Presented)** The implant according to claim 13 or 14, wherein the implant is an orthopaedic implant.

21. **(New)** The method according to claim 1, wherein the peak width, at half the pore depth, is from 30 to 150% of the pore diameter.

22. **(New)** The method according to claim 1, wherein the peak width, at half the pore depth, is from 60 to 150% of the pore diameter.

23. **(New)** The implant according to claim 13, wherein the peak width, at half the pore depth, is from 30 to 150% of the pore diameter.

24. **(New)** The implant according to claim 13, wherein the peak width, at half the pore depth, is from 60 to 150% of the pore diameter.